

# The Education Center

'Mid -Term Examination

Subject: Physics

Time allowed: 1.30hrs

Max-marks: 50

Student's Full Name: \_\_\_\_\_

Roll No: \_\_\_\_\_ Class: \_\_\_\_\_ Marks Obtained \_\_\_\_\_

Examiner's Signature \_\_\_\_\_ Date: \_\_\_\_\_

## Multiple Choice Questions

(1 Mark each)

- 1) Rate of change of velocity is called:
  - A. Displacement
  - B. Momentum
  - C. Acceleration
  - D. Motion
  
- 2). The S.I unit of force is:
  - A. gm.m/sec
  - B. N/sec
  - C. Newton
  - D. Kg.m/sec
  
- 3). If the force acting on a body is doubled, then the acceleration produced is:
  - A.  $\frac{1}{2}$
  - B.  $\frac{1}{4}$
  - C. Double
  - D. Quadrupled
  
- 4). Which one of the following is an agent which changes or tends to change the motion of a body:
  - A. Acceleration
  - B. Speed
  - C. Force
  - D. Momentum

5). Which one of the following is not Scalar:

- A. Mass
- B. Torque
- C. Distance
- D. Time

6). When two equal & opposite vectors are added then their resultant Vector has:

- A. Same magnitude
- B. Zero magnitude
- C. 1 magnitude
- D. Double magnitude

7). The mass of a body is 70kg then the weight of the body is:  
( $g = 10\text{m/s}^2$ )

- A. 170 N
- B. 700N
- C. 200 N
- D. 0 N

8). Two forces of 3N & 4N are acting on a body if the angle between them is  $90^\circ$  then the magnitude of resultant force is:

- A. 1 N
- B. 5 N
- C. 7 N
- D. 12 N

9). By dividing the displacement of a moving body by the time taken we will obtain:

- A. Average speed
- B. Average velocity
- C. Uniform velocity
- D. Acceleration

10). The motion of simple pendulum is an example of:

- A. Random motion
- B. Linear motion
- C. Rotatory motion
- D. Vibratory motion

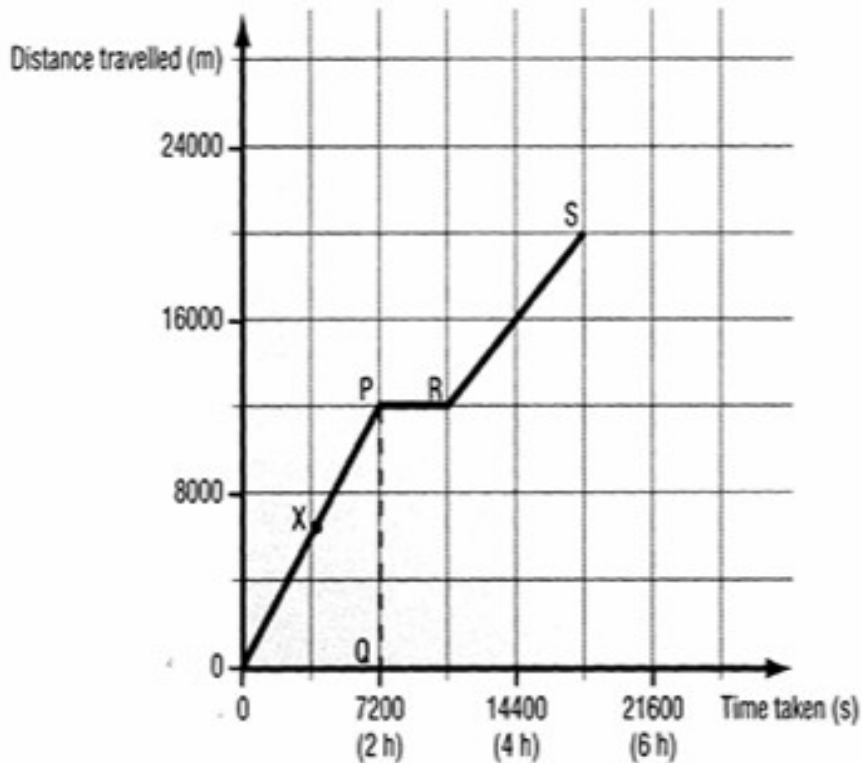
- 11). A stone of 2kg falls from the top of the tower and it reaches to the ground in 3sec. How long will it take by a stone of mass 3 kg to hit the ground if it is dropped from the top of same tower?
- A. 2 sec
  - B. 3 sec
  - C. 5 sec
  - D. 6 sec
- 12). The information that we can get from the velocity-time graph is:
- A. The velocity
  - B. The displacement
  - C. Velocity & displacement
  - D. Displacement, velocity & acceleration
- 13). A body is taken to the surface the moon. Which of the following quantity will change?
- A. Mass
  - B. Weight
  - C. Length
  - D. Density
- 14). The distance covered by a moving body can be determined from its graph by finding the:
- A. Area under the graph.
  - B. Volume of the graph
  - C. Size of the graph
  - D. Area of the moving body.
- 15). The acceleration of a moving body with uniform velocity is:
- A. 3 m/sec
  - B. 0 m/sec
  - C. 2 m/sec
  - D. 1 m/sec
- Q.1 A ball is thrown vertically upward at 1.2 m/sec and de-accelerates uniformly at 10 m/sec. How long it will take to reach the highest point? (3 marks)

Q.2 Define Scalar and Vector quantities give the example of each: (4 marks)

Q3. Define the following terms give the formula for each term.

- 1). Speed (6 marks)
- 2). Velocity
- 3). Acceleration

Q.4 Observe the following graph a). Calculate the speed of the moving object after 2 hrs: (8 marks)

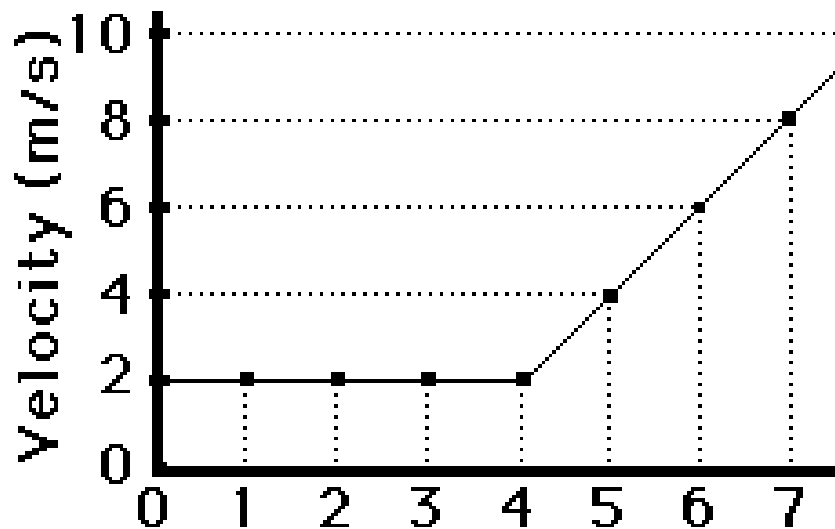


b). Total distance covered after 6 hrs:

Q.5 In the below mentioned graph the motion of a moving object is

shown. Find (10 marks)

(a). The distance covered after 4 sec.



(b). Acceleration of the object in first 4 sec Also verify your answer by using equation of motion.

(c). Speed at 8<sup>th</sup> sec:

(d). Total distance covered from initial point till 8<sup>th</sup> sec:

Q.6 A car of mass 600Kg starts from rest then attains acceleration if the velocity of car is 60 m /sec after 5 sec find the force acting on the car: (4 marks)